

## AIR FILTRATION SYSTEM USING POINT IONIZATION SOURCES

### Abstract of the Disclosure

5           A filtration system for filtering particulates from air. A plurality of point  
ionization sources are positioned in the proximity of the periphery of an air flow channel  
and being oriented to generate ions in the proximity of the air flow channel in a direction  
generally upstream from each respective one of the plurality of point ionization sources.  
A particulate collection surface is positioned within the air flow channel in a downstream  
10       direction from the plurality of point ionization sources. The particulate collection surface  
is electrostatically charged in an opposite direction with respect to ground than the  
electrical charge of the ions. An ion trap is positioned within the air flow channel between  
the plurality of ionization sources and the particulate collection surface. The ion trap is  
relatively electrically neutral as compared with the particulate collection surface and the  
15       ions.